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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOSEF ZUG and PETER de KOCK

Appeal 2009-006087
Application 10/536,683
Technology Center 3600

Decided: September 17, 2009

Before LINDA E. HORNER, MICHAEL W. O'NEILL, and
STEFAN STAICOVICI, *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Josef Zug et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-6. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

THE INVENTION

Appellants' invention is drawn toward a transfer car for transporting metal coils including a chassis 2 that is moved along a conveyance path 1, a support saddle 4 that is raised and lowered by lifting cylinders 7, and a scissor lifting unit 6 mounted to a frame 3 and to the support saddle 4. Spec. 7, ll. 1-15 and fig. 1. The scissor lifting unit 6 is used for synchronization and guidance of the support saddle 4 and does not transmit lifting forces. Spec. 7, l. 21 through Spec. 8, l. 3.

Claims 1 is representative of the claimed invention and reads as follows:

> 1. Transfer car in a conveyance system for metal coils, having a support saddle, a chassis (2) that can be moved along a conveyance path (1) by means of a drive and means for raising and lowering the support saddle (4) along a linear vertical guide (5) on a base frame (3) shaped as a plate, wherein a steel slab is used as the base frame (3), on which a scissor unit (6) is mounted for the purpose of linear vertical guidance (5) and so as to not take on any lifting forces, two lifting cylinders (7) are installed a distance apart as the drive and act directly on the support saddle (4) to provide the sole lifting forces to raise and lower the support saddle (4).

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Carder	US 3,341,042	Sep. 12, 1967
Shaw	US 3,370,727	Feb. 27, 1968
Anderson	US 4,312,619	Jan. 26, 1982
Miyahara	US 4,971,508	Nov. 20, 1990
Perkins	US 5,636,713	Jun. 10, 1997

The following rejections are before us for review:[1]

The Examiner rejected claims 1 and 3-6 under 35 U.S.C. § 103(a) as unpatentable over Miyahara in view of Carder, Shaw, or Anderson.

The Examiner rejected claim 2 under 35 U.S.C. § 103(a) as unpatentable over Miyahara in view of Carder, Shaw, or Anderson, and further in view of Perkins.

THE ISSUE

The Examiner found that Miyahara discloses all the features of claim 1 with the exception of a "scissors unit which provides only linear vertical guidance and two lifting cylinders which provide the sole lifting force." Ans. 3. The Examiner further found that each of Carder, Shaw, and Anderson discloses mobile lifting platforms in which scissor units provide a linear vertical guiding function and separate lifting cylinders provide a sole lifting function. Ans. 4. The Examiner concluded that it would have been obvious to a person of ordinary skill in the art to modify the apparatus of

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[1] The rejection of claims 3 and 4 under 35 U.S.C. § 112, second paragraph, as indefinite, has been withdrawn by the Examiner. Advisory Action 2, mailed Dec. 12, 2007.

Miyahara to include a scissor unit for providing a guiding function and lifting cylinders for providing a sole lifting function as taught by any of Carder, Shaw, and Anderson, in order to "enable the lift to collapse to a minimal height while at the same time providing a guiding function." *Id.*

Appellants argue that the Examiner has not provided motivation to combine the references. Br. 7. Specifically, Appellants argue that because Miyahara does not indicate problems with vertical linear guidance, a person of ordinary skill in the art would not have been motivated to modify Miyahara and include a scissor unit for guidance, as suggested by the Examiner. *Id.* In response, the Examiner takes the position that the motivation comes from the secondary references that "allow a lower collapsed height of the lifting device." Ans. 5.

Accordingly, the issue presented for our consideration is the following:

Have Appellants demonstrated that the Examiner erred in determining that the combined teachings of Miyahara and any of Carder, Shaw, or Anderson would have prompted a person of ordinary skill in the art to modify the lifting system of Miyahara to include the scissor unit and lifting cylinders of any of Carder, Shaw, or Anderson?

SUMMARY OF DECISION

We REVERSE.

FINDINGS OF FACT

The following enumerated findings of facts (FF) are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Miyahara discloses a conveyance system for a metal coil C including a first carriage 6 traveling in a first direction on rails 2 or 3, a second self-propelled carriage 14 adapted to travel in a second, perpendicular direction on rails 1 and positioned on the first carriage 6, and a third self-propelled carriage 25 adapted to travel in a third, perpendicular direction on rails 4 and positioned on the second carriage 14 and the first carriage 6. Miyahara, col. 1, ll. 34-42; col. 2, ll. 63-65; col. 3, ll. 10-11; and figs. 1 and 2.
2. The system of Miyahara further includes a coil lifter 35 (support saddle) that moves up and down between a pair of coil supports 32, which have a pair of parallel posts with a tilting plate 34 for supporting the coil C, where the height of the plate 34 is the same as that of a coil rest 5. Miyahara, col. 3, ll. 7-14; and figs. 2 and 3.
3. When the third self-propelled carriage 25 transports coil C, hydraulic cylinder 26 of Miyahara extends and lifts coil C from coil supports 32 of carriage 14 such that coil C is supported on coil lifter 35 substantially along its entire width (*See* Figure 2 of Miyahara). Third carriage 25 then travels along rail 4 to coil

rest 5 where hydraulic cylinder 26 contracts and coil C is transferred to coil rest 5. Miyahara, col. 3, ll. 22-25 and 28-33.

4. The second embodiment of Miyahara shows a supporting plate 48 (for supporting coil receiver 49 and coil C) directly connected to both hydraulic cylinder 26a and vertical cylinder 50 that is guided by rollers 51 to ensure stable lifting of coil C supported on coil receiver 49. Miyahara, col. 4, ll. 20-24 and 30-36 and fig. 4.

5. Anderson discloses that a main deck loader (MDL) that includes a main platform 26 that is moved vertically by four hydraulic cylinders 28. The MDL further includes a platform squaring or stabilizing scissor 32 that assures that the main platform 26 moves vertically during raising and lowering. Anderson, col. 4, ll. 14-23; col. 5, ll. 5-15; and figs. 1, 3.

6. Shaw discloses an overhead high lift trailer for loading cargo onto an aircraft including an upper section 16 (platform), hydraulic lift rams 20, scissor lift arms 22, and double scissor lift arms 24. Shaw, col. 1, ll. 21-22 and 61-66 and fig. 1.

7. Carder discloses an elevator for loading cargo onto an aircraft including upper and lower frames, primary and secondary hydraulic rams 58, 60, and a double scissor linkage 74 for stabilizing and maintaining the frames parallel to each other. Carder, col. 1, ll. 14-15; col. 2, ll. 47 and 53; col. 3, ll. 28-30 and 48-50; and fig. 1.

PRINCIPLES OF LAW

Obviousness

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.,* 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.,* 383 U.S. 1, 17-18 (1966). *See also KSR*, 550 U.S. at 407 ("While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.")

The Supreme Court stated that in cases involving more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement, it will be necessary to "determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR* at 418. The Court noted that "[t]o facilitate review, this analysis should be made explicit." *Id.* (citing *In re Kahn,* 441 F.3d 977, 988 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness")).

OPINION

Rejections based on 35 U.S.C. § 103 must rest on a factual basis. In making such a rejection, the Examiner has the initial duty of supplying the requisite factual basis and may not, because of doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. *In re Warner,* 379 F.2d 1011, 1017 (CCPA 1967).

The Examiner asserts that:

> It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Miyahara with a scissor unit providing only a guiding function and lifting cylinders providing the sole lifting function, as shown by any of Carder, Shaw, or Anderson, to enable the lift to collapse to a minimal height while at the same time providing a guiding function.

Ans. 4.

We find the Examiner's purported reason for modifying the system of Miyahara to include the scissor unit and lifting cylinders of any of Carder, Shaw, or Anderson deficient in this case because the scissor unit and lifting cylinders of any of Carder, Shaw, or Anderson are used on platforms (frames) of a different scale than that of Miyahara.

As noted above, the system of Miyahara includes a set of self-propelled carriages (6, 14, and 25) that move on a set of rails extending in perpendicular directions (1, 2 and 3, and 4). FF 1. Specifically, Miyahara discloses a hydraulic cylinder 26, directly attached to a coil lifter 35 (platform), which moves up and down between a pair of coil supports 32

having tilting plates 34 for supporting coil C. FF 2. Miyahara further explains that when transferring coil C to a coil rest 5, hydraulic cylinder 26 extends to lift coil C from coil supports 32 of carriage 14 such that coil C is supported on coil lifter 35. FF 3. Then, carriage 25 travels along rail 4 to coil rest 5 where hydraulic cylinder 26 contracts and coil C is transferred to coil rest 5. *Id.* Lastly, Miyahara discloses that the height of the plate 34 of coil support 32 is the same as that of a coil rest 5. FF 2. Hence, a person of ordinary skill in the art would have readily recognized that, because the height of the plate 34 of coil support 32 is the same as that of coil rest 5, the vertical distance traveled by the lifter 35 of Miyahara is minimal in that it merely needs to lift and pass coil C above plates 34 of coil supports 32, transport coil C to coil rest 5 which is at the same height as plate 34, and then retract to place coil C on coil rest 5.[2] In contrast, the scissor unit and lifting cylinders of any of Carder, Shaw, or Anderson are used to lift a platform for loading and unloading cargo onto and from an *aircraft*. FF 5-7. A person of ordinary skill in the art would have readily recognized that the extension and retraction distances traveled by the platforms of any of Carder, Shaw, or Anderson, to load and unload an *aircraft*, are much larger than the extension and retraction distances traveled by lifter 35 of Miyahara above plates 34.

Moreover, the Examiner has not explained why a person of ordinary skill in the art would understand that when modifying the lift of Miyahara with the scissor unit and lifting cylinders of any of Carder, Shaw, or

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[2] *See also* Miyahara, col. 4, l. 44 through col. 5, l. 3 and fig. 7, for a detailed explanation on the transfer process of a coil C to a coil rest 54 for the embodiment presented in Figures 4-6.

Anderson, it would "enable the lift to collapse to a minimal height while at the same time providing a guiding function." In other words, the Examiner has not provided any factual basis to show that the lifting device of Miyahara does not collapse to a minimal height and does not provide a guiding function. As noted above, hydraulic cylinder 26 extends to lift coil C from coil supports 32 of carriage 14 such that coil C is supported on coil lifter 35. FF 3. Hence, lifter 35, prior to its extension, resides beneath the coil C, which is supported by coil supports 32, in a collapsed state. Furthermore, we find that because coil C is supported on coil lifter 35 substantially along its entire width and the extension and retraction distances traveled by coil lifter 35 are minimal, it is self-guiding. *See* FF 3. Moreover, we note that Miyahara specifically discloses in a second embodiment a supporting plate 48 (for supporting coil receiver 49 and coil C) directly connected to both hydraulic cylinder 26a and vertical cylinder 50 that is guided by rollers 51 to ensure stable lifting of coil C supported on coil receiver 49. FF 4.

In conclusion, we find that the modification proposed by the Examiner of including the scissor unit and lifting cylinders of any of Carder, Shaw, or Anderson to the lifting device of Miyahara would not have been obvious to the person of ordinary skill in the art. For the above stated reasons, we conclude that the Examiner has not discharged the initial burden of establishing a prima facie case of obviousness of the subject matter of independent claim 1 or its dependent claims 3-6. As such, the rejection is reversed. *See In re Fine,* 837 F.2d 1071, 1076 (Fed. Cir. 1988) (If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim dependent therefrom is nonobvious).

With respect to claim 2, we find that the application of Perkins does not cure the deficiency of the combined teachings of Miyahara and Carder, Shaw, or Anderson, as discussed above. Accordingly, the rejection of claim 2 under 35 U.S.C. § 103(a) as unpatentable over Miyahara in view of Carder, Shaw, or Anderson, and further in view of Perkins, likewise is reversed.

CONCLUSION

Appellants have demonstrated that the Examiner erred in determining that the combined teachings of Miyahara and any of Carder, Shaw, or Anderson would have prompted a person of ordinary skill in the art to modify the lifting device of Miyahara to include the scissor unit and lifting cylinders of any of Carder, Shaw, or Anderson.

DECISION

The Examiner's decision to reject claims 1-6 is reversed.

REVERSED

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